BEFORE THE
POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

IN THE MATTER OF CROWN ZELLERBACH CORPORATION, Appellant, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent.	PCHB Nos. 85-223 and 85-242 FINAL FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

This matter, the consolidated appeals of NPDES waste discharge permits and orders by the Department of Ecology establishing effluent limitations on suspended solids from the water treatment plants of the Crown Zellerbach's Camas and Port Angeles mills came on for hearing before the Pollution Control Hearings Board; Lawrence J. Faulk (presiding), Gayle Rothrock, and Wick Dufford, members, convened at Lacey, Washington, on May 27, 28, and June 9, 1986. Respondent Department of Ecology elected a formal hearing pursuant to RCW 43.21B.230.

Appellant was represented by Robert R. Davis and Roger Pearson, attorneys at law. Respondent State Department of Ecology was represented by Kathleen D. Mix, Assistant Attorney General. Gene Barker and Associates recorded the proceedings.

Witnesses were sworn and testified. Exhibits were examined. Post-hearing briefs were filed by the parties on June 25, 1986. From testimony heard, exhibits examined, and contentions made, the Pollution Control Hearings Board makes these

FINDINGS OF FACT

I

Appellant Crown Zellerbach Corporation (Crown) is a corporation engaged in the pulp and paper business in the State of Washington. It operates mills for such purpose in Camas and Port Angeles, Washington.

II

Respondent Department of Ecology (Ecology) is an agency of the State of Washington, with responsibilities for administering the laws of the state concerning water pollution prevention and control, including the National Pollutant Discharge Elimination System (NPDES) permit program authorized by federal law.

III

This matter arises because Ecology has directed Crown, at each mill, to treat the wastewater generated by Crown's water treatment plant, which includes accumulated sludge from settling lagoon(s) and filter backwash, prior to discharge to receiving waters. The classification of the Crown Port Angeles plant and the resulting

effluent limitations for the mill generally are also in dispute.

IV

The Crown Port Angeles mill is located at the base of Ediz Hook, a sand spit which extends approximately two miles into the Strait of Juan de Fuca. The plant draws approximately six (6) million gallons of raw water per day from the Elwha River. The raw water is pumped from the river to the mill's water treatment plant where suspended and colloidal matter is removed such that large volumes of clean water can be used in the mill's production processes. To remove suspended solids, the water goes to a settling basin where the majority of solids settle out. After the raw water passes through the settling basin, it passes through large filters which trap additional particles.

The Elwha River has extreme peaks and lows of turbidity. Chemicals may be added to the settling basin to assist in settlement, particularly during periods of high turbidity. The settling basin is cleaned at least once each year. The accumulated sludge is washed out and discharged to the Straits of Juan de Fuca. The filters are cleaned several times each day by the reversal of the flow of water through them, also resulting in a discharge of the accumulated material to the Straits.

V

The process at the Crown Camas mill is similar. This mill draws approximately thirty-five (35) million gallons of water per day from Lackamas Lake or from the Columbia River. The raw water is pumped into a two-part concrete settling basin, where again, suspended solids

settle out. Such settling achieves water clean enough for mill processes in one-half of the two-part basin. Water from the other portion of the basin flows through a filtration system, capturing other remaining particles.

Chemicals are added to one-half of the two-part settling basin to assist in settlement. The settling basin is cleaned out twice yearly. Accumulated sludge in the amount of approximately 800,000 pounds is cleaned out during these semi-annual cleanings and is discharged to Blue Creek, which leads to the Camas Slough, and in turn, the Columbia River. The filters are backwashed several times daily, also resulting in a discharge of accumulated materials to Blue Creek.

VI

At both Port Angeles and Camas, the solids discharged from Crown's water treatment plants are naturally occurring materials brought in through the intake. These discharges are in a concentrated form, but, disregarding the small amounts of chemicals added, the total of pollutants discharged is the same as that drawn in. The discharges represent merely a modest rerouting of sediments to a locale where they would be carried by natural forces if the mills were not there.

VII

On October 11, 1985, Ecology reissued an NPDES permit to the Crown Camas mill, requiring treatment of water supply plant discharges. that Permit contained Special Condition S5 which defined the relevant effluent limit as follows:

Wastewater from the permittee's water treatment plant shall be treated to remove suspended solids. In the absence of promulgated federal effluent guidelines, best engineering judgment was used to develop the following limitations:

Parameter	Daily Average	Daily Maximum
Total Suspended Solids	30 mg/l	45 mg/l

By accompanying order, the Camas plant was directed to meet these effluent limitations by May 1, 1988.

VIII

On October 29, 1985, Ecology reissued an NPDES ppermit to the Crown Port Angeles mill which established new effluent limitations for the mill as well as required treatment of the water supply plant discharges. The permit contained Special Condition S1, which defined the relevant effluent limitations as follows:

S1 EFFLUENT LIMITATIONS.

(a) From the issue date of this permit the permittee is authorized to discharge from outfall 001 subject to the following limits:

Parameter	Daily Average	Daily Maximum
Biochemical Oxygen Demand (5-day)	4,700 lbs/day	8,900 lbs/day
Total Suspended Solids	6,900 lbs/day	12,900 lbs/day
Oil and Grease		15 mg/L
pH	5.0 to 9.0*	

(b) From the issue date of this permit the permittee is authorized to discharge filter plant backwash suspended solids according to the following limitations:

Parameter	Daily Average	Daily Maximum
Total Suspended Solids	30 mg/l	45 mg/l

Condition S2A(2) contained monitoring requirements for the water supply plant discharges.

By separate order, the Port Angeles mill was directed to meet the general effluent limitations by December 31, 1987, and the water supply plant effluent limitations by July 1, 1987. In the interim the plant was to submit engineering plans and specifications to Ecology for review.

IX

Appellant feeling aggrieved by these actions filed two appeals with this Board. The appeal concerning the Camas plant was received by this Board on November 14, 1985 and became our number PCHB 85-223. The appeal concerning the Port Angeles Plant was received by this Board on December 2, 1985 and became our number PCHB 85-242.

X

Concurrently with the issuance of the permit and orders, DOE released documents applicable to each mill entitled "Best Engineering Judgment of Best Conventional Treatment of Water Plant Waste Water" ("BEJ") in an attempt to set forth the basis for the effluent limitations imposed. DOE prepared these documents because the United

States Environmental Protection Agency (EPA) had not issued national effluent guidelines for water treatment plants under the Clean Water Act. In the absence of generally applicable guidelines, Ecology employed EPA regulations, set forth in 40 C.F.R. 125.3(c) and (d), designed for setting effluent limitations on a case-by-case basis.

X

In the BEJ for the Port Angeles mill, DOE determined that primary treatment or sedimentation was the appropriate control technology and that no unique factors existed which affected the installation of treatment facilities. It assumed costs per pound at the Port Angeles would be similar to estimated costs it had on file for a much larger water treatment plant system at Weyerhaeuser's Longview complex. It then compared these costs to estimates for a proposed 10 mgd municipal water treatment plant at Pasco, Washington. The costs were, on this basis, considered to be reasonable.

In the BEJ for the Camas mill, DOE determined that sedimentation was the appropriate control technology. It also undertook a cost analysis based upon the estimated per pound costs to Weyerhaeuser Company at Longview. DOE found that the cost of treatment at Weyerhaeuser was much lower than costs for upgrading a similar sized sewage treatment plant from primary to secondary. Since Crown's cost was assumed to be less than Weyerhaeuser's, the expenses to be incurred at Camas were thought to be reasonable.

XI

Appellant undertook engineering studies by consultants at CH2M

Hill. The preferred and cheapest method of treatment was found to be earthen sedimentation lagoons. The lack of available land at both mills prohibits construction of this system. Consequently, Crown must pursue higher cost alternatives to achieve compliance.

At Port Angeles, the mill selected concrete basins as the most cost-effective technology practicable. On the three sites ultimately considered, capital costs range from $2.4 to $2.9 million. Annual costs per pound of TSS removed range from $1.03 to $3.90, depending upon the site and the quantity of sediments treated.

At Camas, Crown must use mechanical dewatering and continuous sludge removal instead of traditional sedimentation, again because of lack of available land. Using proven technology to construct to construct such mechanical dewatering devices close to the filter plant, this option would cost approximately $4.9 million and would have annual operating costs of $.88 per pound of TSS removal.

XII

For the purposes of analyzing the appropriateness of the water plant TSS limits at Crown's Port Angeles and Camas mills, we find the treatment methods set forth in the preceeding paragraph to be the most reasonable choices and find the estimate derived by CH2M Hill for them to be credible.

The cost figures in each case were increased substantially because of site-specific land constraints, unique to the individual mill. We were unconvinced by Ecology's efforts to estimate Crown's costs by using estimates it had on file for Weyerhaeuser's Longview complex.

XIII

There is no uniformity nationally in the treatment of sediments from industrial water plants. NPDES permits in other states may impose no effluent limits or limits which allow sediment discharge without treatment. Of the pulp and paper mills operated by Crown, Port Angeles and Camas are the only ones with permits requiring treatment.

XIV

In Washington, no pulp and paper mill has yet had to treat sediments with nearly as high capital and operating costs as Crown will experience at Port Angeles and Camas. Other mills have been able to take advantage of inexpensive alternatives such as existing lagoons, low turbidity intake water or treatment in the facility's existing process waste clarifier.

XV

DOE did not make any consideration as to the cost of sediment disposal. This disposal cost significantly adds to the expense of treatment.

XVI

Ecology used as a benchmark for cost comparison a cost of $.36 per pound of TSS removed. This number came from EPA calculations of the incremental cost of removal in going from primary to secondary treatment for a POTW. We are not persuaded of the validity of this figure in relation to a process which involves incremental costs of removal from no treatment to primary treatment.

XVII

DOE developed estimates of capital costs for treatment of sediments at seven Washington municipalities. Using these estimates, DOE produced a cost curve relating capital costs to water flow. In terms of capital costs alone, the treatment alternative considered by Crown at Port Angeles would be approximately five to six times those estimated by DOE. At Camas, the cost estimates for a proven technology would be three to four times those estimated by DOE.

XIII

DOE had no solid data on operating costs of treatment at municipal water plants. Such estimates as they were able to derive showed operating costs and total annual costs for three municipal plants ranging from $.01 to $.84 per pound of TSS removed. Because of the range and the few plants considered, we are unable to attach any significance to these estimates as they pertain to the reasonableness of treatment requirements.

XIX

Moreover, a major difference exists between the operation of municipal water treatment plants and their industrial counterparts. While both must be designed to handle the peak sediment loads, a municipal treatment plant in Washington State will handle the highest sediment loads during the winter months which will be the period of least use. On the other hand, pulp and paper mills will have steady water needs throughout the year. Consequently, municipal treatment plants will have lower operating costs than their industrial

counterparts.

XX

Crown does not contend that the cost of treatment would be beyond its capability to finance the proposed project. It concedes that the financial capacity of the particular mill is irrelevant under federal and state standards.

XXI

Evidence concerning water quality was received from Crown with respect to the Port Angeles mill by way of affidavits of A. David Schuldt and Maurice L. Schwartz. This evidence was objected to, and we have excluded it, as irrelevant. None of this evidence was considered (See Conclusion of Law, No. III).

XXII

Ecology classified the Port Angeles mill as a thermo-mechanical pulp mill (TMP) for purposes of imposition of EPA promulgated effluent limitations for the category of pulp and paper mill point sources pursuant to 40 CFR 430 Subpart M. Appellant argues this was erroneous, and they should have been classified as a chemi-mechanical pulp mill (CMP) pursuant to 40 CFR 430, Subpart L. The effluent limitation under TMP for total suspended solids (TSS) is stricter than under CMP.

Appellant contends that because the mill adds chemicals to the steaming vessel prior to mechanical refining, it should be classified as CMP, which gives it more flexibility in the TSS limitation. However, addition of some chemicals at this juncture in the pulping

process is not uncommon and does not control the classification of a mill. Rather, both process type and raw waste loading, primarily the biochemical oxygen demand (BOD5), dictate the classification. Calculation of the Port Angeles BOD5 demonstrated that it fell between the category of Groundwood and TMP. The mill had a BOD5 raw waste load nearly five times less than the CMP category.

XXIII

Any Conclusion of Law which is deemed a Finding of Fact is hereby adopted as such.

From these Findings of Fact, the Board comes to these

CONCLUSIONS OF LAW

I

The Board has jurisdiction over these parties and these issues. Chapters 43.21B, 90.48 and 90.52 RCW.

II

Chapter 90.48 RCW, the State Water Pollution Control Act, provides the basic framework for the program of water pollution control in effect in this state including permit requirements and enforcement powers. The level of treatment which must be imposed is, however, best stated in a section of a companion statute, namely, RCW 90.52.040:

> In the administration of the provisions of chapter 90.48 RCW, the director of the department of ecology shall, regardless of the quality of the water of the state to which wastes are discharged or proposed for discharge and regardless of the minimum water quality standards established by the director for said waters, require wastes to be provided with <u>all known, available and reasonable methods of treatment</u> prior to their discharge or entry into waters of the state. (Emphasis added.)

III

We conclude that, except where water quality standards are violated or water quality degradation is a factor, the matter of water quality is irrelevant to the question of the level of treatment a discharger must provide. See RCW 90.54.020(3)(b). The standard is primarily a technology standard. City of Pasco v. Dept. of Ecology, PCHB No. 84-339; City of Lynnwood v. Dept. of Ecology, PCHB No. 84-206. Since these cases do not present those exceptional circumstances where water quality is relevant, we have excluded all offered evidence on the subject.

IV

Appellant challenged the effluent limitation for water plant TSS through a number of legal issues:

1. The permit conditions exceed the "all known, available and reasonable methods of treatment" formulation of state law.

2. Ecology failed to properly follow federal regulations at 40 CFR 125.3, which establish a methodology for permit issuance in the absence of EPA promulgated effluent limitations.

3. Ecology has no authority to require treatment of intake solids, as there is no "discharge of pollutants" as anticipated by the Clean Water Act and NPDES program. 33 U.S.C. section 1311(a).

4. Ecology has failed to comply with the State Environmental Policy Act.

5. Ecology has failed to comply with permit issuance regulations.

6. The requirement to treat the sediments constitutes a taking in

violation of the State and U.S. Constitution.

We will address these issues in reverse order.

V

At the hearing, respondent moved to dismiss or limit testimony on issues (4) through (6) identified above, for the failure of appellant to identify these as issues prior to the filing of prehearing briefs. The Board ruled that appellant could either withdraw such issues or continue the hearing to a future date for presentation of evidence, thus giving respondent an opportunity to respond to new matters. We conclude, based on the evidence and argument of counsel, that these issues have been withdrawn. In any event, no evidence was presented to the Board upon which we can conclude that Ecology did not comply with SEPA, failed to comply with permit issuance procedures, or that the actions at issue herein in any way constitute a taking or use of private funds to create a public benefit. In the absence of any such evidence on these defenses, these issues are dismissed.

VI

With respect to appellant's assertion that the discharge of solids does not constitute a "discharge of a pollutant" as anticipated by state or federal law, this argument has been advanced and rejected in the City of Pasco v. Ecology case, supra. Ecology is empowered to carry out the permit program of federal law, as well as pre-existing permit program under state law. RCW 90.48.260, 262. The federal and state definition of "pollutant" includes "rock," and "sand." Crown's water supply plant discharges contain material within this

definition. 33 U.S.C. 1362(6), WAC 173-220-030(6).

However, the federal and state definition of the phrase "discharge of a pollutant" calls for an addition of a pollutant to receiving waters 33 U.S.C. 1362(12), WAC 173-220-030(12). The water plants under consideration merely discharge in a more concentrated form which would naturally migrate to the receiving waters.

Nonetheless, as before, we follow Pederson v. Department of Transportation, 25 Wn.App. 781, 611 P.2d 1293 (1980). The court there concluded that the word "addition" for the purposes of the requirement to obtain a permit means merely a "discharge" into navigable waters, not an "increase" in the amount of a pollutant introduced into the system. Both the federal and state schemes require a permit if any pollutant from a point source is discharged to navigable waters. 33 U.S.C. 1342, WAC 173-220-020.

Given the applicability of the permit requirement to Crown's water supply plant discharges under the definition, the issue of Ecology authority becomes merely the issue of the state's power to impose, within the permit, the effluent limitations which were imposed here.

VII

This brings us to issues (1) and (2), which implicate federal and state treatment requirements. Ecology is required to implement in NPDES permits issued by it the effluent limitations mandated by the federal Clean Water Act, 33 U.S.C. Sec. 1251 et seq. Ecology cannot impose limitations which are weaker than those required federally, RCW 90.48.260, 262. However, the state retains the authority to impose

more stringent limitations than required by the Clean Water Act. 33 U.S.C. Sec. 1311(b)(1)(c), and Sec. 1370.

VIII

EPA, has not adopted any effluent limitations applicable to discharges to navigable waters from water treatment plants. In circumstances such as these, the appropriate level of treatment is to be determined on a case-by-case basis. The relevant federal treatment standard for the water plant discharges at issue is "best conventional technology" (BCT). 40 CFR 125.3.

In establishing the limits for Crown's water treatment plants, Ecology was overtly trying to conform to the BCT standard. Thus, the limits imposed by state law were not intended to be more stringent than required by federal law. Accordingly, as to these water treatment plant discharges, BCT and "all known, available and reasonable methods" were treated by Ecology as the same thing.

IX

Under 40 CFR 125.3(d)(2), derivation of the basic BCT requirements necessitates some comparisons. The first of these is

> The reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived.

On the record before us, we cannot say that this relationship is reasonable. Crown showed credible figures for an expenditure of between $2.4 and $2.9 million at Port Angeles and of approximately $4.9 million at Camas in order to achieve the removal of a majority of the suspended solids taken into the mills in the water plant intake

water.

Though the discharge of solids in a more concentrated form may technically qualify as the addition of a pollutant, any TSS reduction achieved by treatment at the site is attributable to the very existence of the Crown's water plants. Closure of these operations would result in less TSS reduction overall than would complying with the treatment requirements imposed by Ecology.

Under these circumstances, we conclude that a prima facie case of unreasonableness was made out by the cost figures introduced by the company. It was then incumbent on Ecology to go forward with evidence to overcome this. We hold that they did not do so.

X

The second of the comparisons from 40 CFR 125.3(d)(2) is:

> The comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources.

Crown Zellerbach proved that this comparison was not properly made. The POTW cost figures used by Ecology were of doubtful validity. Moreover, Ecology, did not derive cost figures for a class of industrial sources.

Ecology did attempt to compare Weyerhaeuser's costs to those at municipal water treatment plants across the state.

To the extent this represented an attempt to equate municipal plants with industrial plants operated by pulp and paper manufacturers, we were convinced that an across-the-board comparison

is flawed. And again, our confidence in the cost figures themselves was undermined by the evidence.

XI

We conclude that Ecology failed to perform properly the analysis required by 40 CFR 125.3 in establishing the basic level of treatment here.

XII

Once the basic level of treatment is established, 40 CFR 125.3 requires an additional look at the specific sources to evaluate "any unique factors relating to the applicant."

Crown showed the existence of site constraints at both mills which inevitably drive up the cost of achieving the level of solids removal demanded by Ecology. The record does not show that Ecology undertook any analysis of these constraints, dictated in each case by unique site-specific conditions.

XIII

Finally, we turn to the major issue presented by the appeal of these permit conditions--is the level of treatment required consistent with the state standard requiring application of all "known, available and reasonable methods of treatment" prior to discharge.

We conclude that, in these cases, the failure to comply with the federal requirements for case-by-case establishment of effluent limits is also a failure to comply with the state requirement for "reasonableness."

In determining reasonableness, the Board is guided by its decision

in City of Port Angeles v. DOE, PCHB No. 84-178. There we defined reasonableness for industrial sources in terms of whether treatment for the source would involve significantly greater costs than for others obliged to obtain the same levels of treatment. Here, we are hampered by the same deficiencies in DOE's determination of reasonableness as exist in its inadequate compliance with the federal regulations: DOE has not shown a basis to compare Crown's costs against a credible benchmark cost.

Crown has demonstrated that its capital costs for the most practicable options at both mills are inordinately high--at least two to three times that considered by DOE for municipal filter plants. Ecology did not come forward with persuasive countervailing evidence. Thus, although the limits set by Ecology are technologically feasible, we cannot sustain their reasonableness as to cost.

XIV

With respect to the classification of the Port Angeles mill as a thermo-mechanical pulp mill, we conclude that Ecology properly applied federal regulations and considered relevant background data in making its determination. The raw waste loading (BOD5), the critical factor in the determination clearly falls within the TMP or stricter category. The early addition of some chemicals has not been shown to be a controlling factor, as urged by appellant. We conclude the mill is properly classified as a thermo-mechanical pulp mill.

XV

Any Finding of Fact which is deemed a Conclusion of Law is hereby

adopted as such.

From these Conclusions of Law, the Board enters this

ORDER

I

1. Condition S1(b) and S2A.(2) of NPDES Permit No. WA0000292-5 are reversed and remanded to the Department for modification, consistent with the provisions of RCW 90.52.040. The issuance of any such modification shall comply with the provisions of WAC 173-220-190(3) and shall, upon issuance, be appealable to this Board pursuant to chapter 43.21B RCW.

2. Conditions 5 and 6 of Order No DE 85-488 are reversed.

3. Condition S1(a) of NPDES Permit No. WA0000292-5 is affirmed.

II

1. Condition S5 of NPDES Permit No. WA000025-6 is reversed and remanded to the Department for modification, consistent with the provisions of RCW 90.52.040. The issuance of any such modification shall comply with the provisions of WAC 173-220-190(3) and shall, upon issuance, be appealable to this Board pursuant to chapter 43.21B RCW.

2. Order No. DE 85-506 is reversed.

DATED this 15th day of July, 1986.

POLLUTION CONTROL HEARINGS BOARD

7/11/86

LAWRENCE J. FAULK, Chairman

7/11/86

GAYLE ROTHROCK, Vice Chairman

WICK DUFFORD, Lawyer Member